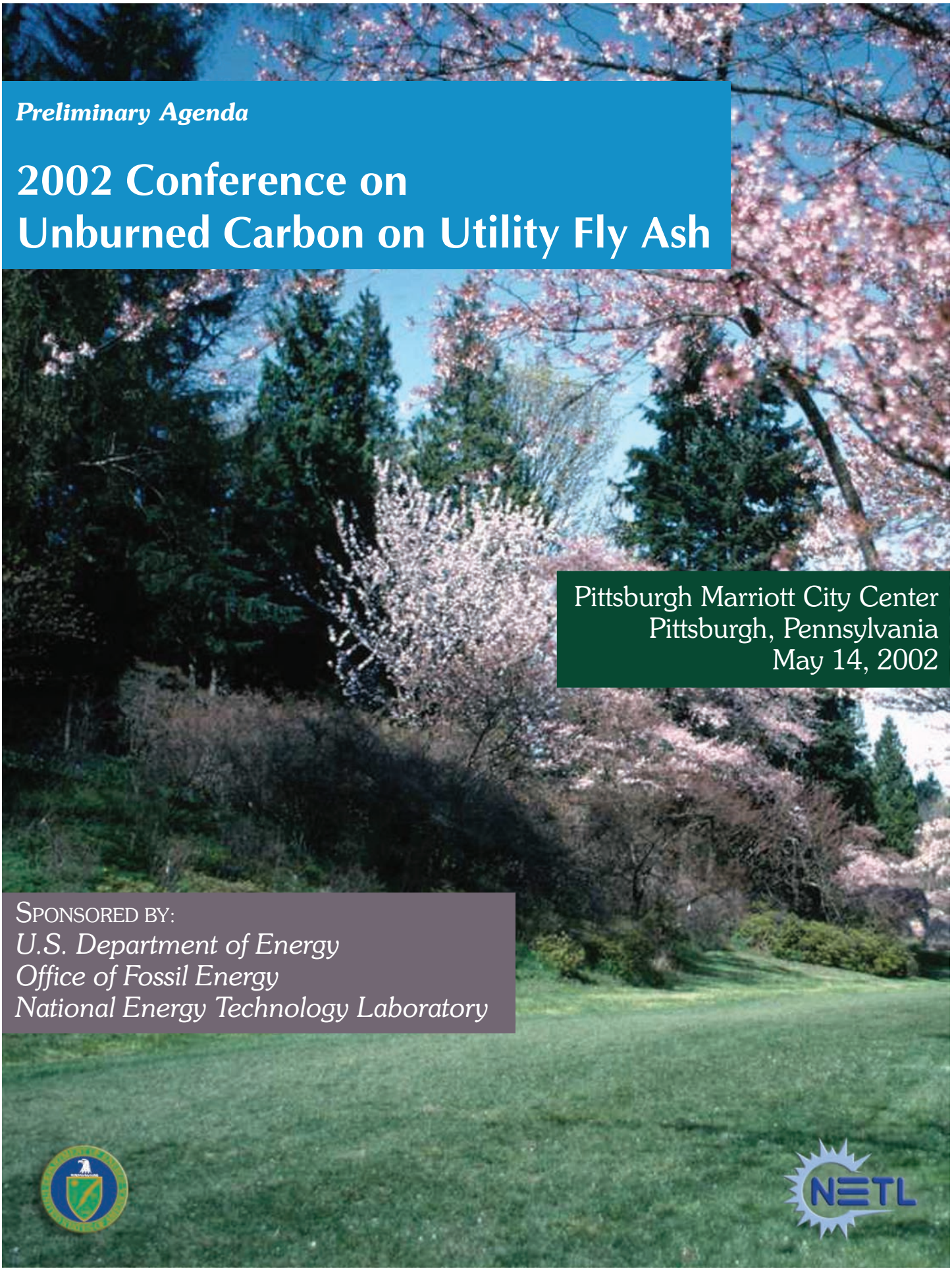

*Preliminary Agenda*

# 2002 Conference on Unburned Carbon on Utility Fly Ash

Pittsburgh Marriott City Center
Pittsburgh, Pennsylvania
May 14, 2002

SPONSORED BY:
*U.S. Department of Energy*
*Office of Fossil Energy*
*National Energy Technology Laboratory*

### Location and Accommodations

The Pittsburgh Marriott City Center located at 112 Washington Place in Pittsburgh Pennsylvania, is the official hotel for the Conference. The Conference rate is $79.00, plus 14% tax for single or double occupancy. For reservations, contact the hotel directly at (412) 471-4000. You must reference the U.S. Department of Energy to receive the special group rate listed above. A block of rooms for this conference will be held until Monday, April 29, 2002.

Hotel check-in time is 3:00 p.m. and check-out time is 12:00 noon.

### Transportation

Shuttle: Airlines Transportation Company: $16.00 one way and $30.00 round trip (412)321-4990. No reservations are required. The shuttle service desk is located on the lower level of the airport near the US Airways baggage claim (express shuttle). For shuttle reservations returning to the airport, please contact the hotel's bell captain to obtain a schedule of departure times.

Taxi: Approximately $35.00 one way, to or from the airport. Yellow Cab (412)665-8100.

### Registration Fee

$20.00
This fee is to cover the cost of continental breakfast and conference breaks.

**Registration fees cannot be refunded after April 30, 2002**.

The registration deadline is May 6, 2002. To register complete the registration form included in this announcement and mail or fax to NETL Event Management. Check or credit card can be used for payment of the registration fee.

All lunches and dinners will be on your own. A list of dining options, many within walking distance of the Marriott City Center, will be provided upon registration.

### Foreign National Visitor Notice

All foreign nationals who wish to attend DOE-sponsored conferences, meetings, workshops or seminars are required to submit NETL Form F142.1-1 requesting a DOE unclassified visit. A minimum of 45 days advance notice is required for the review and approval process for unclassified foreign national visits. A foreign national is any person who is not a U.S. Citizen and includes permanent resident alien (PRA's or "green card holder".)

The NETL Foreign National Visitor Form F142.1-1 is included in this package.

If you have any questions, please call **Karen Lockhart**, at **(412)386-4763** or e-mail **karen.lockhart@sa.netl.doe.gov.**

Visit our web site for continuous updates **www.netl.doe.gov (click on events)**

# *TUESDAY, MAY 14, 2002*

7:00 a.m. **Registration/Continental Breakfast**

7:45 a.m. **Introduction**
Thomas A. Sarkus, Conference Chair
Director, Coal Power Products Division
*U.S. Department of Energy, National Energy Technology Laboratory*

8:00 a.m. **Keynote Address** — "Achieving the Difficult Challenges"
Henry A. Courtright
Vice President, Power Generation and Distributed Resources, *EPRI*

## Introductory Session

**Moderator:** Michael Cloke*, University of Nottingham*

8:30 a.m. WHAT HAVE WE LEARNED FROM SEVEN CONFERENCES ON UNBURNED CARBON ON UTILITY FLY ASH?
Thomas C. Ruppel, *Parsons Corporation*

9:00 a.m. MULTI-POLLUTANT INTERACTIONS AT COAL-FIRED POWER PLANTS
Edward S. Rubin, *Carnegie-Mellon University*

## Experiences & Observations

9:30 a.m. ROTATING OPPOSED FIRE AIR (ROFA) AND SNCR
Mark Shilling and Gary Tonomaker, *Carolina Power and Light Company*

10:00 a.m. **Break**

10:30 a.m. HIGH EFFICIENCY, LOW NOx COMBUSTION SYSTEMS
Albert D. LaRue, *Babcock & Wilcox*

11:00 a.m. CARBON BURN-OUT, COMMERCIALIZATION AND EXPERIENCE UPDATE
James G. Keppeler, *Progress Materials*

11:30 a.m. THE EFFECTS OF HIGH CARBON-IN-ASH ON ELECTROSTATIC PRECIPITATOR PERFORMANCE
M.Cloke, E. Lester, S. Hanson, and A. Thompson, *University of Nottingham, England*

12:00 p.m. **Lunch (on your own)**

1:00 p.m. **Poster Session**

**Moderator:** Edward S. Rubin, *Carnegie-Mellon University*

1:30 p.m. NOx REDUCTION OF A 165 MW BOILER UTILIZING AIR AND FUEL FLOW MEASUREMENT AND CONTROL
Dave Earley, *Air Monitor Corporation/Combustion Technologies Corporation*

## Predictive Performance Tools

2:00 p.m. COMPUTER MODELING OF UNBURNED CARBON AS PART OF BOILER RETROFITS AND NITRIC OXIDE CONTROL
Bernard P. Breen and Joseph A. Urich, *Energy Systems Associates*

# *TUESDAY, MAY 14, 2002*

## Measurement Techniques for Unburned Carbon

2:30 p.m. CARBON CONTENT DETECTION IN HIGH TEMPERATURE AND HIGH PRESSURE FIELDS USING LASER INDUCED BREAKDOWN SPECTROSCOPY
S. Iwasaki, *Japan Power Engineering and Inspection Corporation*
M. Noda and Y. Deguchi, *Mitsubishi Heavy Industries*
M. Horio, *Tokyo University of Agriculture and Technology*

3.00 p.m. INCREASING THE RELIABILITY AND ACCURACY OF AUTOMATED, ON-LINE CARBON-IN-ASH MEASUREMENTS
Edward C. Burgher and Thomas Hope, *Rupprecht & Patashnick*

3:30 p.m. **Break**

## New Uses for High LOI Fly Ash

4:00 p.m. COMMERCIAL USE OF HIGH-CARBON FLY ASH IN CEMENT MANUFACTURING
Javed I. Bhatty, John Gajda, and F.M. Miller, *Construction Technology Laboratories*

4:30 p.m. ANALYSIS AND UTILIZATION OF CONDITIONED AND BLENDED FUEL-DERIVED COAL
J.M. Tranquilla, *EMR Microwave Technology Corporation*
James MacLean, *Dominion Ash CCP*

5:00 p.m. INDUSTRIAL USES FOR A NOVEL HIGH-CARBON FLY-ASH BASED BINDER
S. Komar Kawatra and S. Jayson Ripke, *Michigan Technological University*

5:30 p.m. **Closing Remarks**
Thomas A. Sarkus, Conference Chair
Director, Coal Power Products Division
*U.S. Department of Energy, National Energy Technology Laboratory*

5:40 p.m. **Adjourn**

## Posters

THE ADVANTAGE OF USING LOW UN-BURNT CARBON COAL ASH FOR PRODUCING COAL ASH BRICKS AND AN ASSESSMENT OF THE PHYSICAL CHARACTERISTICS OF SUCH BRICKS PRODUCED FROM THE COAL ASH OF THE NATIONAL THERMAL POWER CORPORATION SINGRAULI STATION – A CASE STUDY
Shiv K. Dube and Sudhir Kapoor, *National Thermal Power Corporation, India*

COMPARISON OF ACTIVATED FLY ASH CARBONS WITH CONVENTIONAL COMMERCIAL ADSORBENT CARBONS
Zhe Lu, Yinzhi Zhang, Brandon N. Shaffer, M. Mercedes Maroto-Valer, John M. Andresen, and Harold H. Schobert, *The Pennsylvania State University*

APPLICATION OF ASTM ACTIVATED CARBON TEST METHODS TO UTILITY FLY ASH
Henry Nowicki and Rich Morrical, *Professional Analytical and Consulting Services*

AMMONIA EVOLUTION CHARACTERISTICS OF AMMONIATED FLY ASH WHEN USED IN MORTARS AND CONCRETE
Russ Majors, *Boral Material Technologies*

A COLLABORATIVE PROJECT FOR THE IMPROVEMENT OF COMBUSTION EFFICIENCY IN UTILITY BOILERS
Peter Stephenson, *Innogy*